



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

C45-HC

Job Sheet 191755



Part No: C45-HC

Job Qty: 1 pcs

Part Name: C-Series Remote Hook 4,500 lbs Lift Capacity With Cage



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 3/7/19

Job Tracking No:

Due Date: 5/6/19

Created By: Marie Lajeunesse

Type: SOLD

Description: *order 13882*

Note: IPP REV:A 18.02.16 NEW ISSUE DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	External Load - 1	1 pcs	5/6/19	5/6/19	0.00	0.50	External Load - 1		<i>Michel</i>
							External Load - 2		
							External Load - 3		
120	QC 5	1 pcs	5/6/19	5/6/19	0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		
							QC 5 - 42		
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
							QC 5 - 40		
130	DC - 1 - B4B	1 pcs	5/6/19	5/6/19	0.00	0.00	DC - 1 - B4B		<i>DAS 30 JUN 06 2019</i>
							DC - 2 - B4B		
140	Packaging 3-1 - Stock - B4B	1 pcs	5/6/19	5/6/19	0.00	0.00	Packaging 3 - 1 - B4B		<i>DAS 30 JUN 06 2019</i>
							Packaging 3 - 2 - B4B		
							Packaging 3 - 3 - B4B		
							Packaging 3 - 4 - B4B		
							Packaging 3 - 5 - B4B		
							Packaging 3 - 6 - B4B		
							Packaging 3 - 7 - B4B		
							Packaging 3 - 8 - B4B		



1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S188338



Part: C45-HC

Job No: 191755

Serial No/Batch: S188338

Revision:

Inspector:

Exp Date:

Instructions:

Date: 06/06/19

Plex 3/7/19 1:28 PM Dart.lajeunesse.marie

				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	
				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
160	QC 21 - FG	1 pcs	5/6/19	0.00 0.00	QC 21 - FG - 21
					QC 21 - FG - 70
					QC 21 - FG - 53

Part Op **100** - Assemble the hook into the cage using the hardware called out on the C45-C drawing and torque fasteners to 290-
 Descriptions: 410 in. lbs.
120 - (QC5- Inspect part completeness to step on W/O)
130 - (Document Control) Photocopy blue file and create labels as per O&OPM-C45
140 - (Identify as per dwg & Stock Location: _____)
160 - (QC21- Final Inspection - Work Order Release)

Job BOM				
Part / Item	Component Name	Quantity	Operation	Container
C45	C-Series Remote Hook 4,500 lbs Lift Capacity	1 pcs (1 ea)	100-External Load - 1	5167368
C45-C	Single Cage Assembly (C45 & C60 Hook)	1 pcs (1 ea)	100-External Load - 1	5188000

Job Allocations				
Operation	Component Part	Required	Inventory	Allocated
100-External Load - 1	C45	1	0	0
	C45-C	1	0	0

Part Specifications	
Specifications could not be found.	

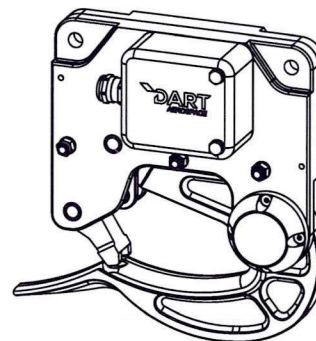
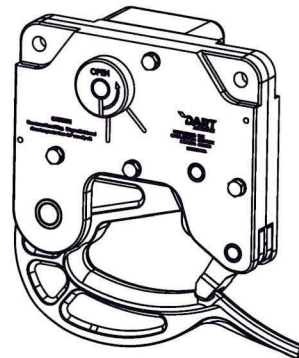
Plex 3/7/19 1:28 PM Dart.lajeunesse.marie

SAF-T-EZE (M 139008)

This drawing, specifications, and concepts contained here in are the sole property of Dart Aerospace, and may not be reproduced or used in any fashion without the prior written permission of Dart Aerospace Eugene, OR.

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
			C45-1-1	1	MANUAL KNOB RELEASE	6061		2
			C45-2-1	1	SIDE PLATE	7075-T6		2
		B/O	C45-3-1	2	RADIAL BEARING		(KAMAN #1606 2R5)	3
			C45-3-2	1	LATCH ROLLER PIN	O-1		3
		B/O	C45-3-2-1	2	SNAP RING	STEEL	Ø3/8 (KAMAN 1400-0037)	3
			C45-3-3	1	LATCH ROLLER	4140/4142		3
			C45-3-4	2	LINK PIN	O-1		3
		B/O	C45-3-4-1	4	RETAINING RING	BERYLLIUM COPPER	3/16 SHAFT (MCMASTER-CARR #98410A110)	3
		B/O	C45-3-5	2	SPACER	TEFLON	(MCMASTER-CARR #95606A180)	3
			C45-3-6	1	LATCH	17-4 S.S.		3
			C45-3-7	1	LINK	O-1		3
			C45-3-8A	1	ACTUATOR SHAFT BUSHING	AL BRONZE 630		3
			C45-3-8B	1	ACTUATOR SHAFT BUSHING SOLENOID SIDE	AL BRONZE 630		3
		B/O	C45-3-9	1	LEVER SPRING	303 S.S.		3
			C45-3-10	1	LATCH SHAFT	17-4 S.S.		3
			C45-3-11	1	ACTUATOR	17-4 S.S.		3
		B/O	C45-3-12	1	DU BEARING		(KAMAN 060U06)	3
			C45-4-1	2	TRUNNION BUSHING	AL-BRONZE 630		2
			C45-4-5	1	LOAD BEAM SPACER	4140/4142 Q&T		2
		B/O	C45-5-1	1	LEVER STOP PIN	STEEL	1/4 X 1-3/8 (MCMASTER-CARR #98381A545)	2
			C45-5-2	1	LEVER STOP	304 S.S.		2
			C45-7-1	1	LOAD BEAM BUMPER	POLYURETHANE		2
			C45-7-2	2	LOCK BUMPER	POLYURETHANE		2
			C45-8-1-2	2	SOLENOID NUT	304 S.S.		2
			C45-8-2	1	SOLENOID ASSY		(REF: H-2553-020)	2
			C45-8-4	1	SOLENOID COVER GASKET	BLENDED RUBBER		2
			C45-8-5	1	SOLENOID COVER	6061		2
			C45-9-1	1	CLOCK SPRING COVER	6061		2
			C45-4-4A	1	C45 LOAD BEAM ASSY.			2
		B/O	C45-9-2	1	CLOCK SPRING	303 S.S.	.03 X .75 X 15 DENDOFF SPRING	2
		B/O	C45-10-1	1	SPRING PIN	S.S.	1/4 X 1.0 (MCMASTER-CARR #92373A183)	2
			C45-10-2	1	LOCK SPRING C45 HOOK	302 S.S.		3
			C45-11-1	1	SIDE PLATE SOLENOID	7075-T6		2
		B/O	C45-11-2	2	LOCATING PIN	S.S.	Ø3/16 X 1 (MCMASTER-CARR #90145A510)	2
			C45-12-1	2	LOCK BUSHING	4140/4142		3
			C45-12-2	1	LOCK SHAFT	4140/4142		3
			C45-12-3	1	LOCK	4140/4142		3
			C45-12-4	1	LOCK ROLLER	4140/4142		3
			C45-12-5	1	LOCK ROLLER PIN	4140/4142		3
		B/O	C45-12-6	2	RETAINING RING	STEEL	(KAMAN #N1400-0050)	3
			C45-13-1	2	KEEPER BUSHING	4140/4142		3
		B/O	C45-13-2	2	SPACER	NYLON	(MCMASTER-CARR #95606A210)	3
			C45-13-3	1	KEEPER SHAFT	4140/4142		3
			C45-13-4	1	KEEPER	4140/4142		3
		B/O	C45-13-5	1	KEEPER SPRING	303 S.S.	CHAMBERLAIN SPRING	3
			600.1309	1	LABEL 	ALUMINUM		N/S
			600.1309-A	1	LABEL 	ALUMINUM		N/S
		B/O	600.1312	1	CAUTION STICKER 			N/S
		B/O	C2-14-2	2	LABEL RIVETS 	18-8 S.S.	NO 4 (MCMASTER-CARR #91654A106)	N/S
		B/O	188-FPSS-1/4 20-3/8	2	SET SCREW	S.S.	1/4-20 (MCMASTER-CARR #92313A535)	2
		B/O	188-FSCS-1032-5/8	4	SCREW	S.S.	10-32 X 5/8 FSHCS (MCMASTER-CARR #92210A303)	2
		B/O	AN4-23A	2	BOLT	STEEL	1/4-28 X 2.41	2
		B/O	ANS-21A	4	BOLT	STEEL	5/16-24 X 2.22	2
		B/O	MS21044NS	4	LOCK NUT	S.S.	5/16	2
		B/O	AN960-416	3	WASHER	STEEL	1/4	2
		B/O	AN960-516	8	WASHER	STEEL	Ø5/16	2
		B/O	MS27039-4-08	1	BOLT	STEEL	1/4-28 X .531	2
		B/O	EL 314-SJTOW 3/14	1	3 WIRE		(TEXCAN 314-SJTOW 3/14)	2
		B/O	32448	2	14-14 AWG KNIFE CONNECTOR		(ALLIED ELECTRONICS 32448)	2
		B/O	C10-41	1	STRAIN RELIEF CONNECTOR	BRASS	1/2 TRADE SIZE (MCMASTER-CARR #6907K14)	2
		B/O	EL-PLUG-M	1	MALE PLUG	PE High Density	(MCMASTER-CARR #7216K5)	2
		B/O		1	HEAT SHRINK TUBE	RUBBER	(MCMASTER-CARR #2595K22)	N/S

REVISIONS				
REV	ECR	DESCRIPTION	DATE	INITIAL
1	15-0018	UPDATED TO NEW DRAFTING STANDARDS, CHD P/NS TO REFLECT AN & MS NUMBERS, ADDED REBUILD AND CUSTOMER REBUILD NOTES.	1/20/2015	DPD
2	15-0230	C45-5-1 CHD B/O WAS Ø1/4 X 1-1/2 #98381A545 IS Ø1/4 X 1-3/8 #98381A545. C45-1-2 REPLACED W/ 188-FPSS-1/4 20-3/8. C45-9-1-1 REPLACED W/ 188-FSCS-1032-5/8. MS27039-4-10 REPLACED W/ MS27039-4-08. CORD GRIP REPLACED W/ C10-41. 32448 ADDED TO BOM QTY 2. ADDED ENGRAVING NOTES & DETAILS.	9/10/2015	DPD



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 191755 HW
19-08-03

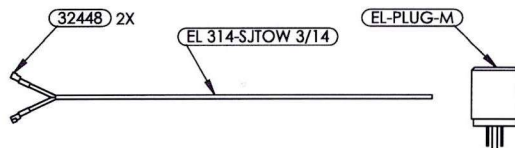
NOTES:

- FOR REBUILD ONLY.
- FOR CUSTOMER REBUILD ONLY.

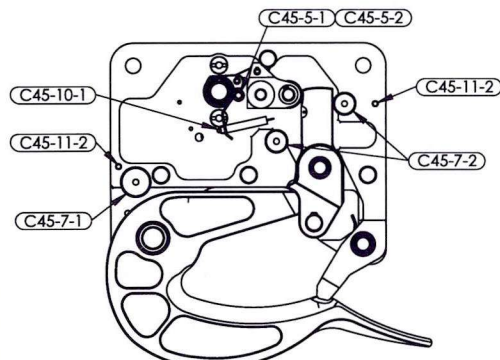
DART AEROSPACE	
TITLE C45-HOOK	
DWG NO. C45	REV 2
MAT'L UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES XXX ± .005 XXX ± .01 X ± .1	DRAWN BY: D. Wall
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	APPROVED D. Wall
SCALE 1:4	SHEET 1 OF 3

This drawing, specifications, and concepts contained here in are the sole property of Dart Aerospace, and may not be reproduced or used in any fashion without the prior written permission of Dart Aerospace Eugene, OR.

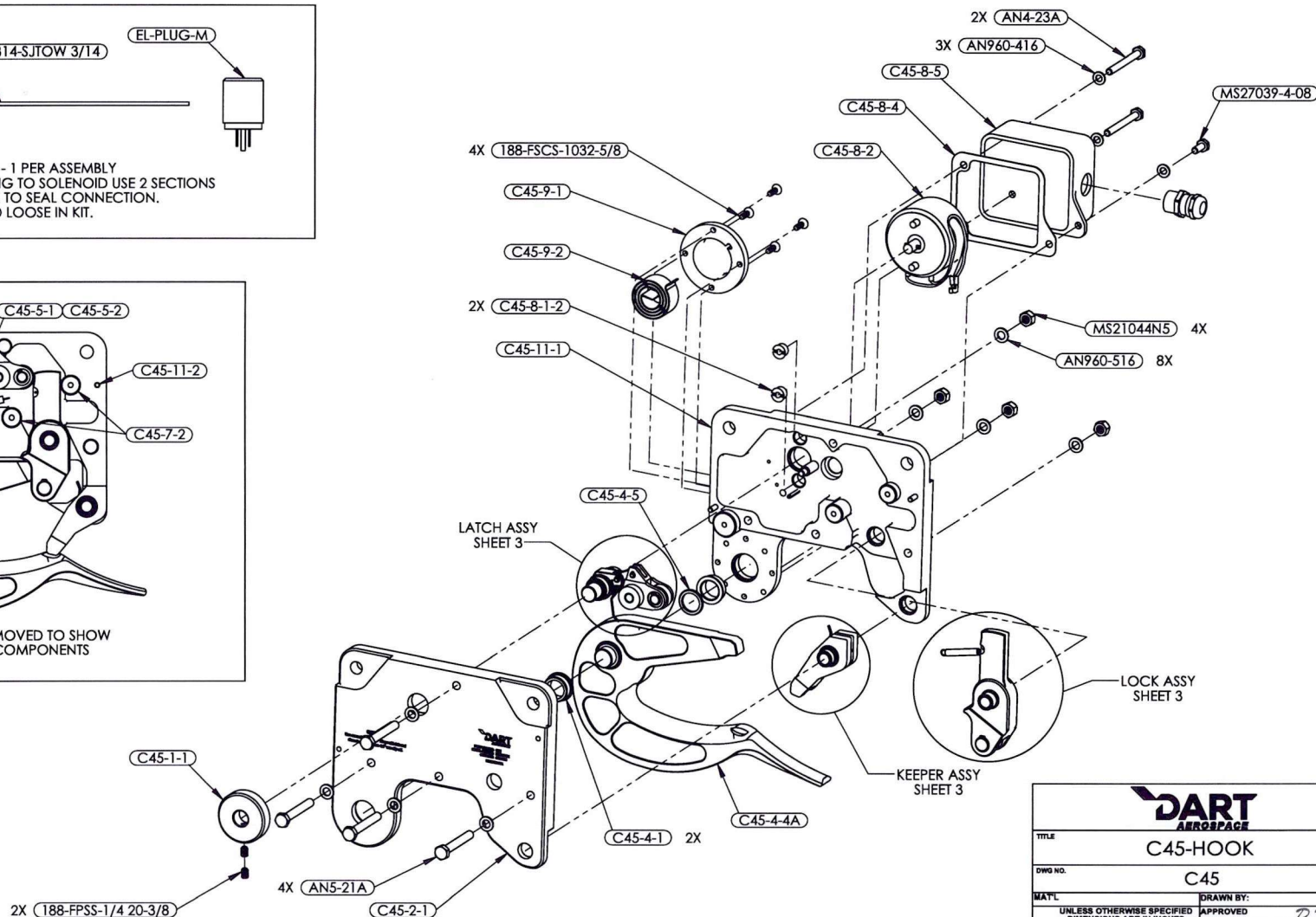
REVISONS			
REV	ECR	DESCRIPTION	DATE INITIAL APPROVED



WIRE ASSEMBLY - 1 PER ASSEMBLY
WHEN INSTALLING TO SOLENOID USE 2 SECTIONS
OF HEAT SHRINK TO SEAL CONNECTION.
PLUG INCLUDED LOOSE IN KIT.



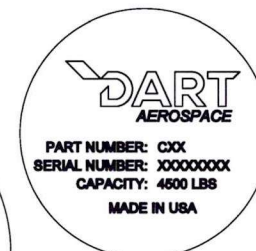
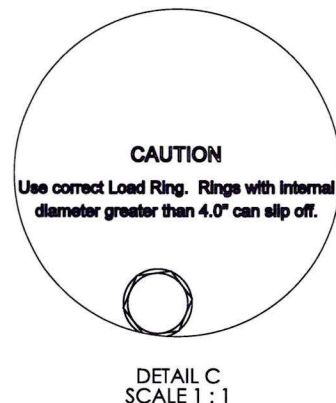
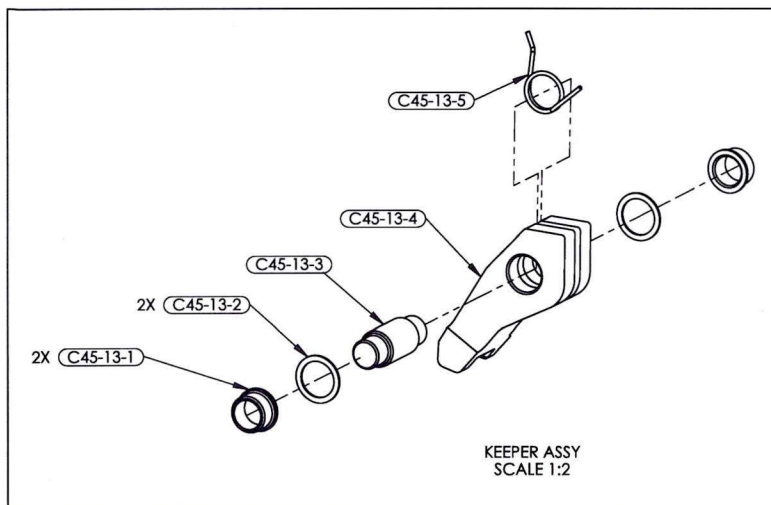
SIDE PLATE REMOVED TO SHOW
INTERNAL COMPONENTS



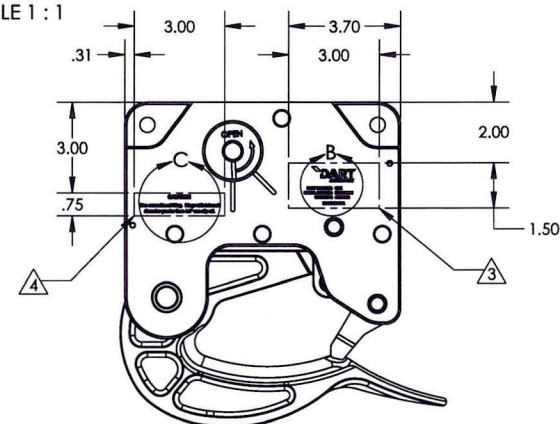
DART AEROSPACE	
TITLE C45-HOOK	
DWG NO. C45	REV 2
MATERIAL UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES XXX ± .005 FRACTIONS ± 1/8 XXX ± .01 DECIMALS ± .005 X ± .1 ANGLES ± .5° 1. BREAK ALL SHARP EDGES .015 ± .45° 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
DRAWN BY: APPROVED: <i>D. Wall</i> FINISH SPEC USED ON MODEL	
SCALE 1:4	DATE SHEET 2 OF 3

This drawing, specifications, and concepts contained here in are the sole property of Dart Aerospace, and may not be reproduced or used in any fashion without the prior written permission of Dart Aerospace Eugene, OR.

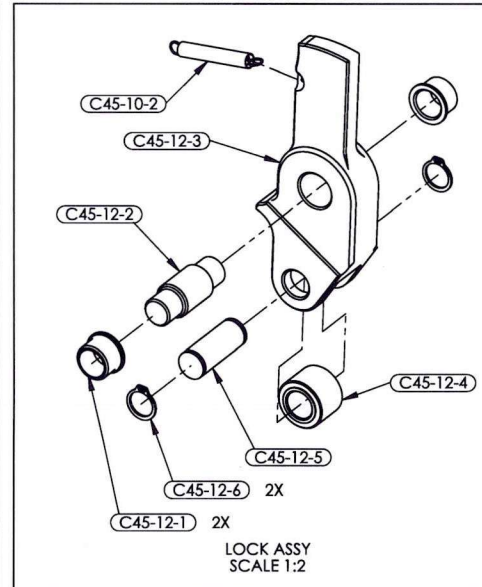
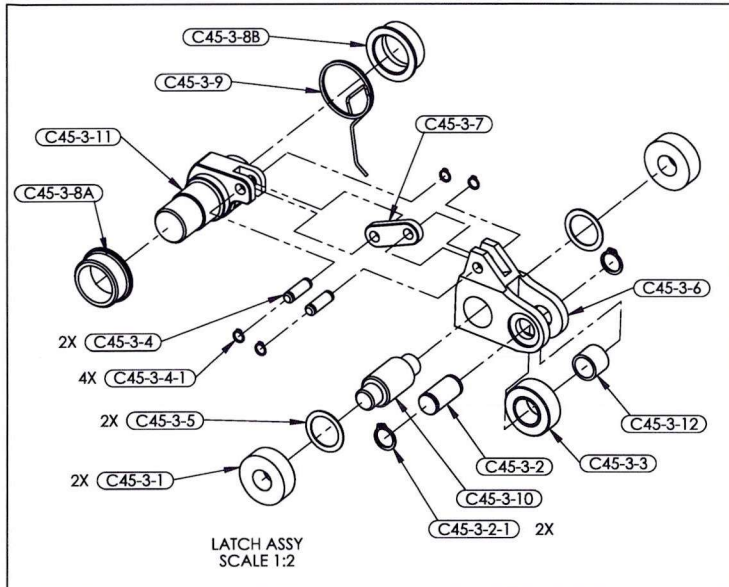
REV			DESCRIPTION	DATE	INITIAL	APPROVED
2	15-0230		ADDED ENGRAVING NOTES & DETAILS.	9/10/2015	DPD	JAG



DETAIL B
SCALE 1:1



- NOTES:
- 3 LASER ENGRAVE DART LOGO, P/N, S/N, "MADE IN USA," WITHIN BOUNDARY.
 - 4 LASER ENGRAVE CAUTION NOTE, WITHIN BOUNDARY.



DART AEROSPACE	
TITLE C45-HOOK	
DWG NO. C45	REV 2
DRAWN BY: <i>D. Weir</i>	
APPROVED <i>D. Weir</i>	
MATERIAL UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES XXX ± .005 FRACTIONS ± 1/8 XX ± .01 ANGLES ± .5° X ± .1	
SPEC 1. BREAK ALL SHARP EDGES .015 ± .45° OR .015 2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 1:4	DATE 9/10/2015
SHEET 3 OF 3	

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: _____ Part No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier Quality ☐		
Date :	Sequence #:	QTY Affected :		MRB (QSI042)
Description Work Order Deviation		Disposition		Completed By
				Lead hand / Supervisor
				QC / QA Coordinator
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Preservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread		
Other/Details:				